

SERVICE MANUAL

SOLID-STATE REVERBERATION AMPLIFIER

SANSUI RA-700



Sansui

SANSUI ELECTRIC CO., LTD.

1. SPECIFICATIONS

RATED OUTPUT VOLTAGE

.....300mV (at 1,000Hz, Reverberation time minimum Input level 200mV)

MAXIMUM INPUT VOLTAGE

.....3V (at 1,000Hz, Reverberation time minimum)

HARMONIC DISTORTION

.....Less than 0.2% (at 1,000Hz, Reverberation time minimum output level 300mV)

FREQUENCY RESPONSE

..20 to 30,000Hz ± 2 dB
(at Reverberation time minimum)
20 to 30,000Hz ± 10 dB
(at Reverberation time maximum)

SIGNAL TO NOISE RATIO

.....65dB (at output level 300mV)

REVERBERATION TIME

..1.9 to 3.2 second (at 1,000Hz)

INPUT IMPEDANCE

.....More than 200k ohms (at 1,000Hz)

INPUT AND OUTPUT JACKS

.....INPUT

OUTPUT

TAPE DECK—A

TAPE DECK—B

LOAD IMPEDANCE100k ohms

SWITCHES AND CONTROLS

REVERBERATION MODE..ON, OFF, RECORD

TAPE MODEREC/PLAY—B REC/PLAY—A

A—B DUBBING

B—A DUBBING

POWER REQUIREMENT

POWER VOLTAGE100, 117, 220, 240V 50/60Hz

POWER CONSUMPTION..9W (rated)

SEMI-CONDUCTORSTransistors: 11 Diodes: 3

DIMENSIONS11 $\frac{1}{16}$ " (280mm) W,

4 $\frac{15}{16}$ " (125mm) H,

10 $\frac{7}{10}$ " (264mm) D

WEIGHT9.3lbs (4.2kg) Net

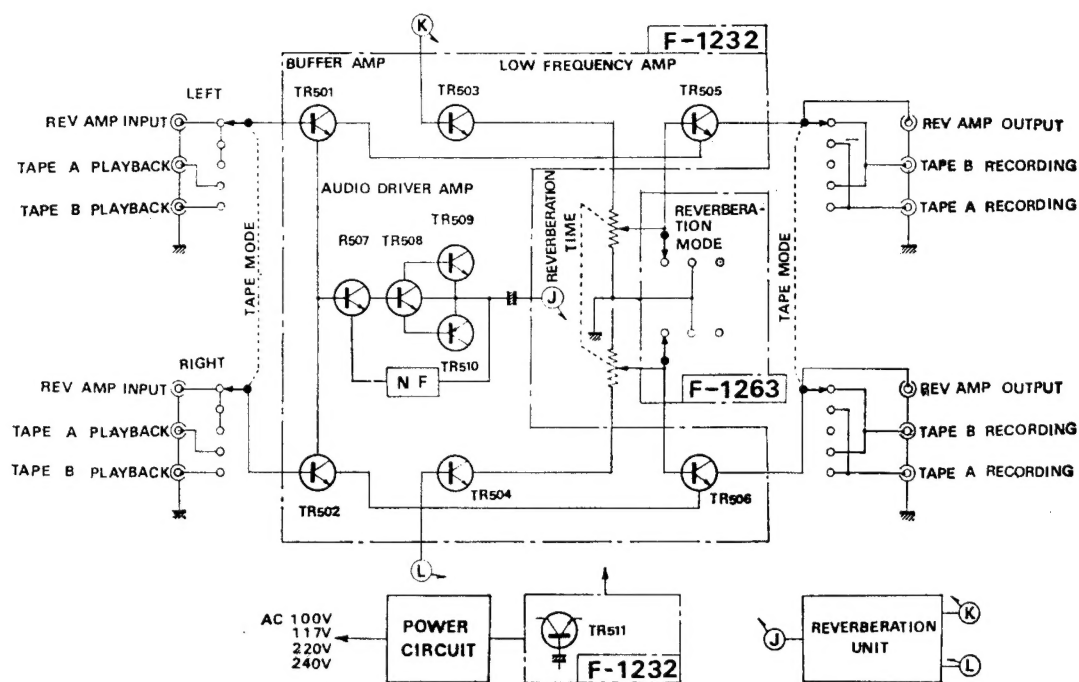
11.9lbs (5.4kg) Packed

* Design and specifications subject to change without notice for improvements.

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2. BLOCK DIAGRAM



3. THREADING OF ECHO LENS CORD

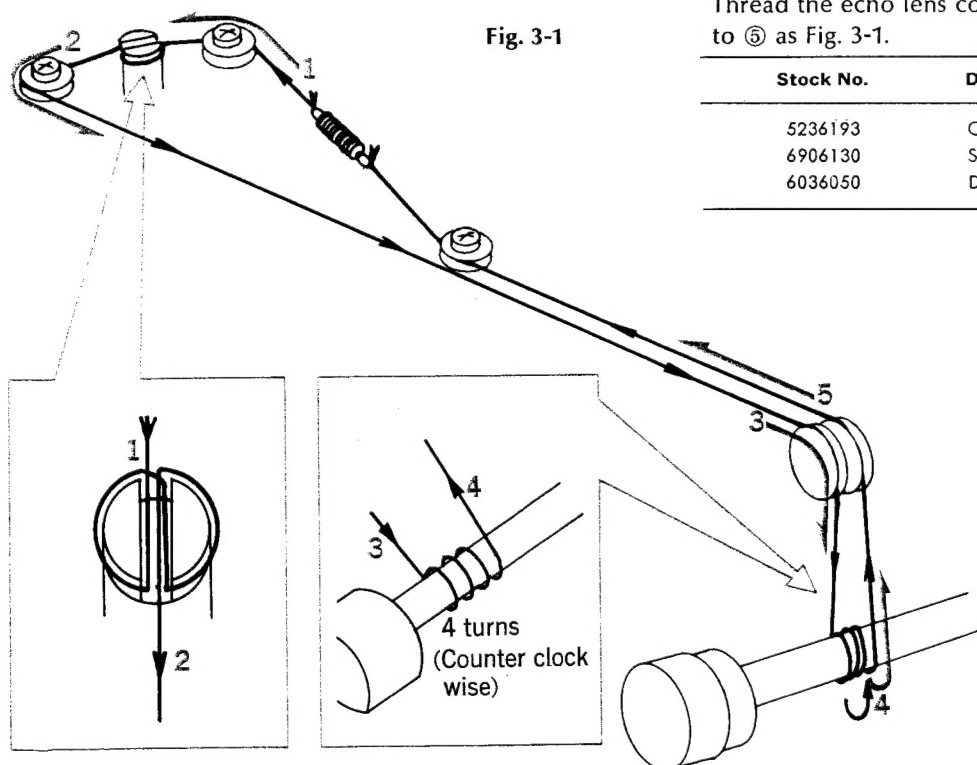


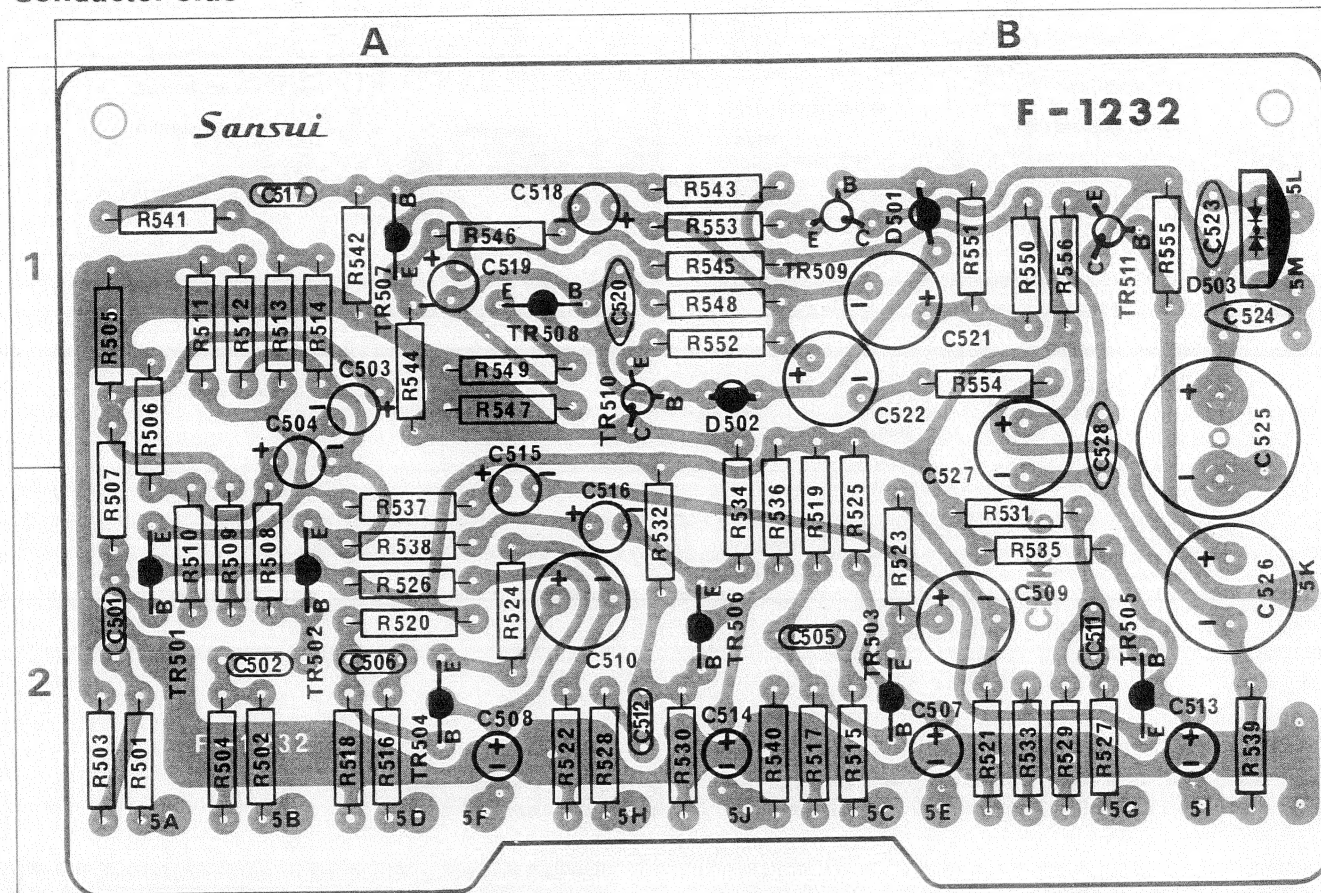
Fig. 3-1

Thread the echo lens cord in numerical order from ① to ⑤ as Fig. 3-1.

| Stock No. | Description |
|-----------|--------------------|
| 5236193 | Cord Support |
| 6906130 | Spring (F) |
| 6036050 | Dial Cord (0.6mmφ) |

4. PARTS LOCATION AND PARTS LIST

4-1. F-1232A Audio Driver Circuit Board (Stock No. 7592370 Complete Board F-1232A) Conductor Side



Parts List

| Parts No. | Stock No. | Description | Position |
|-----------|------------|-----------------|-------------|
| TR501,502 | 0306141, 2 | 2SC1362⑤ (7, 8) | 2 A |
| TR503,504 | 0306141, 2 | 2SC1362⑤ (7, 8) | 2 B . 2 A |
| TR505,506 | 0306141, 2 | 2SC1362⑤ (7, 8) | 2 B . 2 A B |
| TR507,508 | 0306141, 2 | 2SC1362⑤ (7, 8) | Transistor |
| TR509 | 0305360, 1 | 2SC734 (O.Y.) | |
| TR510 | 0300100, 1 | 2SA561 (O.Y.) | 1 A |
| TR511 | 0305530, 1 | 2SC971 (2, 3) | 1 B |
| D501 | 0340090 | DS-430 | 1 B |
| D503 | 0310680 | 10DC (N) | 1 B |
| C501,502 | 0601158 | 0.15μF 50V M.C. | 2 B |
| C503,504 | 0511330 | 33μF 10V E.C. | 1 A, 1, 2 A |

Abbreviations

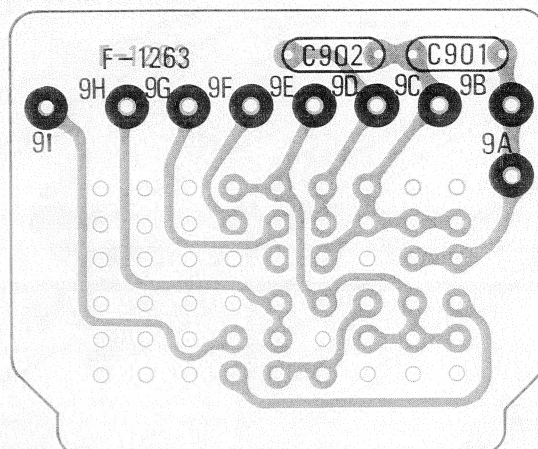
| | |
|---------------------------------|---|
| C.R. : Carbon Resistor | B.P.E.C.: Bi-Polar Electrolytic Capacitor |
| S.R. : Solid Resistor | C.C. : Ceramic capacitor |
| Ce.R. : Cement Resistor | Mi.C. : Mica Capacitor |
| M.R. : Metallized Film Resistor | O.C. : Oil Capacitor |
| M.C. : Mylar Capacitor | P.C. : Polystyrene Capacitor |
| E.C. : Electrolytic Capacitor | T.C. : Tantalum Capacitor |

| Parts No. | Stock No. | Description | |
|-----------|-----------|-------------------------|--------------|
| C505,506 | 0601107 | 0.01 μ F 50V M.C. | 2 B . 2 A |
| C507,508 | 0513100 | 10 μ F 25V E.C. | 2 B . 2 A |
| C509,510 | 0510101 | 100 μ F 6.3V E.C. | 2 B . 2 A |
| C511,512 | 0601477 | 0.047 μ F 50V M.C. | 2 B . 2 A |
| C513,514 | 0514339 | 3.3 μ F 35V E.C. | 2 B |
| C515,516 | 0513100 | 10 μ F 25V E.C. | 2 B |
| C517 | 0601337 | 0.033 μ F 50V M.C. | 1 A |
| C518,519 | 0513100 | 10 μ F 50V E.C. | 1 A |
| C520 | 0660151 | 150 pF 50V C.C. | 1 A |
| C521,522 | 0513470 | 47 μ F 25V E.C. | 1 B |
| C523,524 | 0659009 | 0.002 μ F 500V C.C. | 1 B |
| C525 | 0515331 | 330 μ F | 1, 2 B |
| C526 | 0515101 | 100 μ F } 50V E.C. | 2 B |
| C527 | 0515470 | 47 μ F } | 1, 2 B |
| C528 | 0657473 | 0.047 μ F 50V C.C. | 1, 2 B |
| R501,502 | 0107222 | 2.2k Ω | 2 A |
| R503,504 | 0107474 | 470k Ω | 2 A |
| R505,506 | 0107274 | 270k Ω | 1 A, 1, 2 A |
| R507,508 | 0107563 | 56k Ω | 1, 2 A, 2 A |
| R509,510 | 0107823 | 82k Ω | 2 A |
| R511,512 | 0107682 | 6.8k Ω | 1 A |
| R513,514 | 0107683 | 68k Ω | 1 A |
| R515,516 | 0107222 | 2.2k Ω | 2 B . 2 A |
| R517,518 | 0107683 | 68k Ω | 2 B . 2 A |
| R519,520 | 0107824 | 820k Ω | 2 B . 2 A |
| R521,522 | 0107561 | 560 Ω | 2 B . 2 A |
| R523,524 | 0107222 | 2.2k Ω | 2 B . 2 A |
| R525,526 | 0107393 | 39k Ω | 2 B . 2 A |
| R527,528 | 0107682 | 6.8k Ω | 2 B . 2 A |
| R529,530 | 0107124 | 120k Ω | 2 B . 2 A |
| R531,532 | 0107564 | 560k Ω | 2 B . 2 A |
| R533,534 | 0107222 | 2.2k Ω | 2 B . 1, 2 B |
| R535,536 | 0107682 | 6.8k Ω | 2 B . 1, 2 B |
| R537,538 | 0107332 | 3.3k Ω | 2 A |
| R539,540 | 0107393 | 39k Ω | 2 B |
| R541 | 0107222 | 2.2k Ω | 1 A |
| R542 | 0107683 | 68k Ω | 1 A |
| R543 | 0107224 | 220k Ω | 1 A, B |
| R544 | 0107182 | 1.8k Ω | 1 A |
| R545 | 0107682 | 6.8k Ω | 1 A, B |
| R546 | 0107332 | 3.3k Ω | 1 A |
| R547 | 0107682 | 6.8k Ω | 1 A |
| R548 | 0107683 | 68k Ω | 1 A, B |
| R549 | 0107181 | 180 Ω | 1 A |
| R550 | 0107272 | 2.7k Ω | 1 B |
| R551 | 0107102 | 1k Ω | 1 B |
| R552,553 | 0107150 | 15 Ω | 1 A, B |
| R554 | 0107220 | 22 Ω | 1 B |
| R555 | 0107223 | 22k Ω | 1 B |
| R556 | 0107101 | 100 Ω | 1 B |
| R557 | 0107121 | 120 Ω | |

4-2. F-1263-6 Mode Selector Circuit Board

(Stock No. 7590460 Complete Circuit Board F-1263-6)

Conductor Side

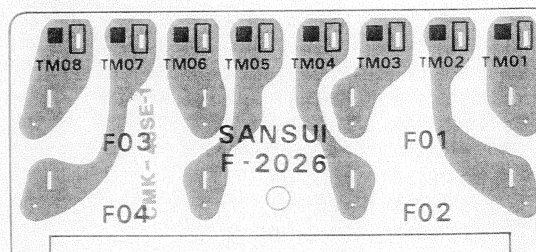


Parts List

| Parts No. | Stock No. | Description |
|-----------|-----------|------------------------|
| S3 | 1130410 | Push Switch |
| C | 0601567 | 0.056 μ F 50V M.C. |

4-3. F-2026 Fuse Circuit Board

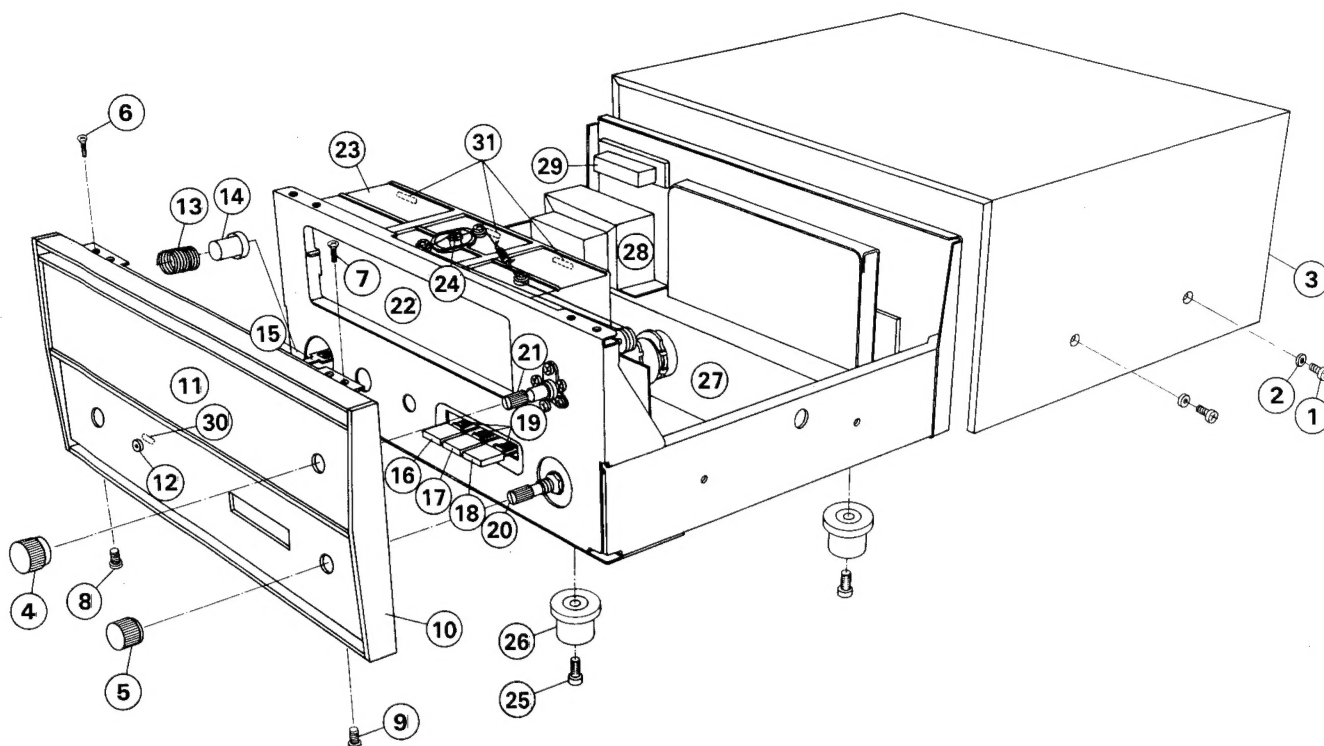
Conductor Side



Parts List

| Parts No. | Stock No. | Description |
|-----------|-----------|------------------------------|
| F01 | 0432000 | 0.3A 250V |
| F02 | 0432000 | 0.3A 250V |
| F03 | 0432850 | 2.0A 250V |
| | | Protector Fuse |
| 2591370 | | F-2026 Printed Circuit Board |

4-4. Other Parts (Front Side)



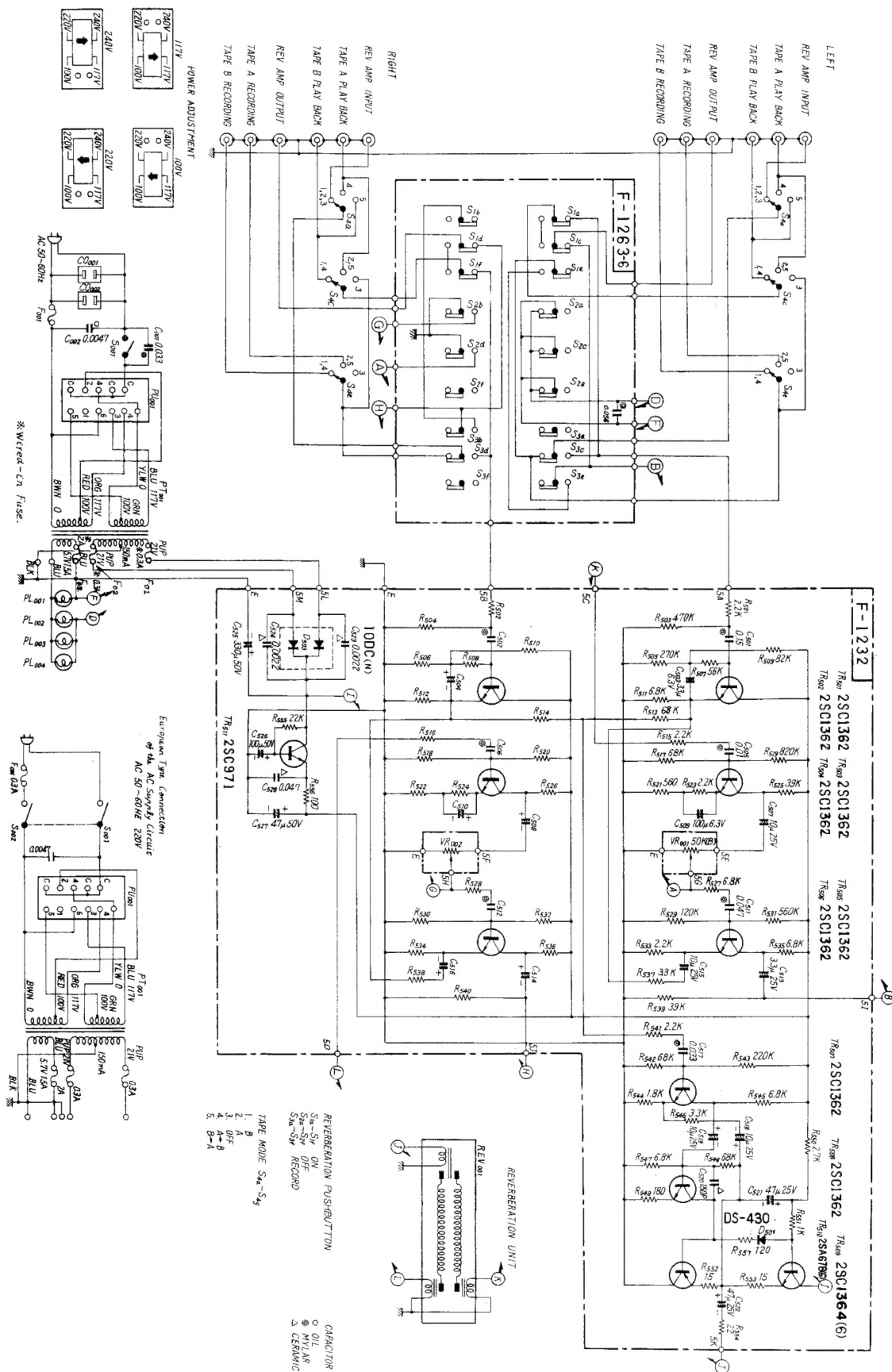
Parts List

| Parts No. | Stock No. | Description |
|-----------|------------|--|
| 1 | 5101163 | Binding Head Screw, M4×10 |
| 2 | 5186110 | Plain Washer, 4φ |
| 3 | 5726890 | Wood Case |
| 4 | 5316207 | D-1 Type Knob, REVERBERATION TIME volume |
| 5 | 5316621 | V-1 Type Knob, TAPE MODE switch |
| 6 | 5102843 | Flat Countersunk Head Screw, M3×6 |
| 7 | 5102843 | Flat Countersunk Head Screw, M3×6 |
| 8 | 5101043 | Binding Head Screw, M3×6 |
| 9 | 5101043 | Binding Head Screw, M3×6 |
| 10 | 5309560 | Front Panel |
| 11 | { 5047810 | Smoked Plate |
| | { 5446131 | Echo Lens |
| 12 | { 5426102 | Indicator |
| | { 5076031 | Ring, Indicator |
| 13 | 6906020 | Spring, POWER switch |
| 14 | 5326013 | Push Button, POWER switch |
| 15 | 1130160 | Push Switch, POWER switch |
| 16 | 5326181 | Y-2 Type Push, Button |
| 17 | 5326181 | Y-2 Type Push, Button |
| 18 | 5326181 | Y-2 Type Push, Button |
| 19 | 1130410 | Push Switch (3 Stage) |
| 20 | 1102270, 1 | Rotary Switch Y-2-6-5, TAPE MODE |
| 21 | 1010531 | 50kΩ (B)×2, REVERBERATION TIME volume |

| Parts No. | Stock No. | Description |
|-----------|-----------|-------------------------------------|
| 22 | 5446210 | Pattern |
| 23 | { 5066130 | Inner Case, REVERBERATION INDICATOR |
| | { 5066140 | Outer Case, REVERBERATION INDICATOR |
| 24 | 5236183 | Cord Support |
| 25 | 5101165 | Binding Head Screw, M4×14 |
| 26 | 5516911 | Foot (K-1526u) |
| 27 | 4350010 | Reverberation Unit |
| 28 | 4000690 | Power Transformer |
| 29 | { 2410080 | Voltage Selector, Socket |
| | { 2410090 | Voltage Selector, Plug |
| 30 | 0400120 | Power Indicator Lamp 0.15A 8V |
| 31 | 0420020 | Reverberation Indicator Lamp |
| CO001, 2 | 2450011 | AC Outlet 0.25A 6.3V |
| C001 | 0605337 | 0.033μF 250V M.C. |
| C002 | 0659802 | 0.0047μF 1.4KV C.C. |
| F001 | 0431212 | 0.5A (100~117V) |
| | 0431202 | 0.3A (220~240V) |
| | 2310030 | Fuse Holder (Pilot lamp) |
| | 2300020 | Fuse Holder (AC Fuse) |
| | 2320070 | AC Indicator Socket |
| | 2230010 | Ground Terminal |
| | 2200320 | Input Terminal |
| | 2200340 | Input Terminal |

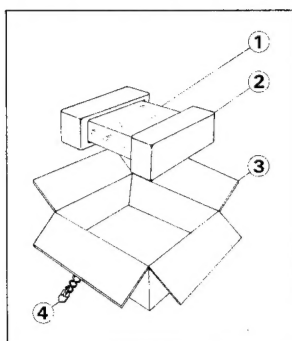
5. SCHEMATIC DIAGRAM

*Design and specifications subject to change without notice for improvements.



6. PACKING LIST

| Parts No. | Stock No. | Description |
|-----------|-----------|-------------------|
| 1 | 9116232 | Vinyl Cover |
| 2 | 9017680 | Styrofoam Packing |
| 3 | 9008241 | Carton Case |
| 4 | 5996080 | Curl Stopper |



7. ACCESSORY PARTS LIST

| Stock No. | Description |
|------------|-----------------------------|
| 3810180, 1 | Pinplug Cord |
| 9208670 | Operating instructions |
| 9228670 | Operating instruction Sheet |



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